

**FORCE 2020:
WILL IT BE SMART ENOUGH?**

Future War Concept Paper

**By
LtCol T.P. Martin
SAW Class of 2003**

Submitted to:

LtCol Atle Stai, School of Advanced Warfighting.

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2009		2. REPORT TYPE		3. DATES COVERED 00-00-2009 to 00-00-2009	
4. TITLE AND SUBTITLE Force 2020: Will it be Smart Enough?				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) United States Marine Corps,School of Advanced Warfighting, Marine Corps University,2076 South Street, Marine Corps Combat Development Command,Quantico,VA,22134-5068				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 16	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Executive Summary

Title: Force 2020: Will it be Smart Enough?

Author: LtCol Thomas P. Martin

Thesis: Given the proliferation of new technology and new threats across a wide spectrum throughout the department of defense, an analysis is in order to ensure that the force coming into the service, particularly the Marine Corps, is of adequate mental capacity to properly leverage technological advances in the year 2020. Simply put, is the force we are currently recruiting going to be intelligent enough to maximize the developments in technology and deal with new threats in 2020?

Discussion: This study will be conducted in three sections. First, the historical and current quality of the force will be reviewed for both DOD and the Marine Corps. The “projected” quality of this force in 2020 will be examined from several perspectives, to include generational factors, with the idea of seeing where the force will be in terms of mental capacity. The next section will take a look at the future of war, in an effort to determine just how smart the force will need to be. Lastly, a third section will complete a comparison of the “projected” 2020 force with future war requirements will allow for a synthesis, which will lead to conclusions and recommendations. Specifically, this paper will focus on entry level accession information for recruits who have enlisted, shipped to, and completed basic recruit training, and have graduated from military occupational specialty (MOS) training. The study will examine past enlistment test scores, focusing on the percentage of enlisted personnel who score in the upper half of the Armed Services Vocational Aptitude Battery (ASVAB) test. This percentage, known as the I-III A percentage, or as the “Alpha mix,” will be reviewed by year, for the past 20 years, and will serve as the baseline for the analysis. Both DOD scores and Marine Corps Scores will be evaluated, in order to provide perspective.

Conclusion: The force we will require to meet the challenges in 2020 will need to more capable, flexible, adaptive, and consequently smarter. Fortunately, the millennial generation will provide a pool of achievement-oriented, service-conscious, and smarter young people to create this force. We should capitalize on their strengths by incrementally increasing the I-III A Percentage for DOD and Marine Corps accessions over the next 12 years. At the same time, we should review and update the ASVAB testing system used to evaluate and classify them, in order to fully maximize their potential.

**Alice: “Would you tell me please, which way I ought to go from here?”
“That depends a good deal on where you want to go get to,” said the cat.
“I don’t much care where,” said Alice.
“Then it doesn’t matter which way you go,” said the cat.**

Lewis Carroll, Alice in Wonderland

Clearly, if you don’t know where you are going, then any road will take you there. This monograph seeks to determine where the Marine Corps should be in terms of the basic intelligence of the force in the year 2020. Given the proliferation of new technology across a wide spectrum throughout the Department of Defense, combined with the significant changes in the threats the nation will face, an analysis is in order to ensure the force coming into the service, particularly the Marine Corps, is of adequate mental capacity to properly leverage technological advances in 2020. Simply put, is the military force we are currently recruiting going to be intelligent enough to maximize the developments in technology in 2020? Are we on the right path to get there ?

Methodology and Structure

Obviously, a topic of this complexity requires a limited scope. Accordingly, this paper will focus specifically on entry level accession information for recruits who have enlisted, shipped to and completed basic recruit training, and have graduated from military occupational specialty (MOS) training. The study will examine past enlistment test scores, focusing on the percentage of enlisted personnel who score in the upper half of the Armed Services Vocational Aptitude Battery (ASVAB) test. This percentage, known as the I-III A percentage, or as the “Alpha mix,” will be reviewed by year, for the past 20 years, and will serve as the baseline for the analysis. Both DOD scores and Marine Corps Scores will be evaluated, in order to provide perspective.

The study will be in three sections. First, the historical and current quality of the force will be reviewed for both DOD and the Marine Corps. The “projected” quality of this force in 2020 will be examined from several perspectives, to include generational factors, with the idea of seeing where the force will be in terms of mental capacity. The next section will take a look at the future of war, in an effort to determine just how smart the force will need to be. Lastly, a third section will complete a comparison of the “projected” 2020 force with future war requirements will allow for a synthesis, which will lead to conclusions and recommendations.

SECTION ONE: CURRENT AND PROJECTED FORCE QUALITY

Over the past 20 years, the mental quality of the force remained consistent with the mandated recruitment level for each year. Figure 1 displays the I-III A percentage for the total number of DOD accessions by year. The mental quality of the force increased significantly during the 1980’s, five to eight years after the inception of the all-volunteer, all-recruited force. This primarily was the result of two factors. The military build-up of the 1980’s, to include increased defense spending, seems to have attracted a higher quality force. Additionally, the minimum I-III A percentage was raised to 63% in the early 80’s. The force peaked in the early 1990’s, than began a gradual but steady decline throughout the 1990’s, up to today.

Figure 2 represents the same quality indicators as figure 1, but is Marine Corps specific. The Marine Corps mental quality for accessions essentially mirrors those for the DOD as a whole. Realizing that the Marine Corp enlists 18-20% of all DOD accessions, this would not be seen as inconsistent. Essentially, over the past 20 years the DOD and

Marine Corps have been able to achieve the standards they set for the I-III A percentage for each year. In other words, the services recruit to the required level.

Figure 1:

DOD I-III A Accession Percentages, 1979-2000

Year	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
I-III A Pct	58	60.1	62	62.8	63	63.1	63.5	63.7	63.8	64.1	64.5
Year	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>200</u>
I-III A Pct	64.6	64.4	63.7	63.5	63.3	63.2	63	63.1	63.3	63.5	63.1

Figure 2:

Marine Corps I-III A Accession Percentages, 1979-2000

Year	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
I-III A Pct	58.5	61	62.1	62.9	63.1	63.2	63.7	63.7	63.9	64.3	64.2
Year	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
I-III A Pct	65	65.1	64.8	64.5	64.1	63.8	63.5	63.4	63.2	63.3	63.4

Force 2020

Assuming the requirement is not changed, in 2020, the accession I-III A percentage will still be at approximately 63%. Therefore, given that the standards remain the same, the force in 2020 will have the same mental capacity as the force of 1980 and will probably still be slightly less capable than the force that was recruited in the late 1980's/early 1990's. Figure 3 projects the force from 2000 to 2020 for DOD. Figure 4 represents the projected Marine Corps from 2000 to 2020.

Figure 3:

DOD Projected I-III A Percentage 2001-2020

Year	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
I-III A Pct	63.4	63.5	63.2	63.6	63.4	63.7	63.8	64	64.3	64.2	64
Year	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>		
I-III A Pct	64.1	63.3	63.5	63.7	63.5	63.6	63.3	63.2	63.2		

Figure 4:

Marine Corps Projected I-III A Percentage 2001-2020

Year	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
I-III A Pct	63.4	63.5	63.2	63.6	63.4	63.7	63.8	64	64.3	64.2	64
Year	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>		
I-III A Pct	64.1	63.3	63.5	63.7	63.5	63.6	63.3	63.2	63.2		

Obviously there will be variances from year to year, but using the baseline figures 1 & 2 as guides, those variances will only be + or - .6% from year to year. So, with all other factors being equal, the force will be basically the same in terms of mental competence between now and 2020. The essence of the problem now appears. Is this good enough? Can we or should we expect more? What will the next group of young people entering the military be capable of? There are two other perspectives that factor into our force 2020 analysis, namely generational considerations and developments in neuroscience. The force in 2020 will be of a new generation, and there will certainly be new ways to determine and evaluate their intelligence and capabilities by 2020, so it would be useful to provide depth to the analysis by examining the force from these two perspectives.

The Millennial Generation

The millennial generation, being defined as a group being born in or after 1982, is unlike any other generation in living memory. By the year 2005 they will entirely occupy the lower enlisted ranks. By 2020, they will comprise the entire force, with the exception of the very senior officer and enlisted ranks. In their current book, Millennials Rising, social historians William Straus and Neil Howe explain this generation:

“They are more numerous, more affluent, better educated, and more ethnically diverse. More importantly, they are beginning to manifest a wide array of positive social habits that older Americans no longer associate with youth, including a new focus on teamwork, achievement, modesty, and good conduct. Only a few years from now, this can-do youth revolution will overwhelm the cynics and pessimists. Over the next decade, the Millennial Generation will entirely recast the image of youth from downbeat and alienated to upbeat and engaged- with potentially seismic consequences for America.”

Several of these characteristics are germane to this study. The fact that millennials are numerous means there will be a larger pool of young people to draw from. Due to increases in birthrates, caused partly by the influx of fertility drugs, by their final birth years of 2002-2005 they will out number both Generation X and the Boomer Generation. They are also cooperative team players, rule followers, and accept authority more so than either Gen X or Boomers, which predisposes them naturally for service oriented careers. The most significant characteristic is that they are smarter. They have been raised in a protected, sheltered society, see themselves as special, and are therefore optimistic and achievement oriented. They are attending college at higher rates than previous generations. From their perspective, “It’s cool to be smart.” The rise in standardized test scores across the nation over the last several years and the increasing competition for college entrance bears this attitude out. This generation is also more technologically competent, having grown-up with the internet. They also multi-task fairly well, and it is not uncommon to see any teenager on-line doing research for a paper, while in a “chat-room” with a friend, listening to music at the same time and completely comfortable doing it all.

All of the above-mentioned characteristics are very positive in terms of military service recruiting- as long as the services can continue to attract enough of them, and with the required I-III A percentage. The millennials will be capable, indeed, even more capable in terms of mental capacity than previous generations. The next perspective to consider deals with the nature of what it means to be intelligent. How will we define intelligence by 2020, and how will that apply to our force?

The Future of Intelligence

During the last twenty years there have great leaps in our understanding of how the human brain works, and in the next twenty years there will be even more breakthroughs. This awareness will cause us to redefine how we measure intelligence and may profoundly impact our personnel accession process.

Intelligence testing dates back the early twentieth century, when the German psychologist Wilhelm Stern developed the IQ test in 1912. The purpose of the test was to provide a reasonable prediction concerning individual aptitude in an academic environment. All general-purpose intelligence tests used today, to include the ASVAB, ACT, SAT tests are offspring from the IQ test. Recent developments in neuroscience have, however, led to the recognition that these tests only measure a portion of a person's overall intelligence. In fact, the human brain is capable of an infinite number of intellectual capacities, which allows people to exhibit a wide range of capabilities with separate faculties that are interconnected in a variety of differing ways. Howard Gardner, a Harvard graduate school psychologist, proposed his theory of "multiple intelligences" in 1983, and neuroscientists are currently proving his theory correct.

So, while the millennials will provide a pool of intelligent, capable individuals for our force 2020, we can't fully measure their abilities with our current testing device. One thing that is certain though is that this force will be challenged in unforeseen ways, and it have to rise to meet those challenges.

SECTION TWO: FUTURE WAR PERSONNEL REQUIREMENTS

Warfare in the 21st century will be marked by several dominant characteristics. These characteristics will necessitate the requirement for several types of forces that are capable of facing a variety of unique challenges.

Technological developments and the proliferation of the technology will no doubt have an impact on what kind of force we need to procure. In practical terms, the “information age” requires people to be computer literate. For the Marine Corps it also means we will need more support personnel to maintain the systems. For example, in the ground combat arms community, as the weapons systems become more sophisticated technologically, we require fewer Marines to man the systems, but a larger support base to provide the structure to service the systems. This is a trend not unlike what has already happened in the aviation community. Therefore, in the future, we will probably require fewer “trigger pullers,” and more combat service support.

Another trend is urbanization. As the world's population continues to expand and migrate to the cities, warfare will literally be “taken to the streets.” In the past, U.S. military doctrine holds that forces should avoid fighting in cities; in the future it will be unavoidable. Additionally, an ever-increasing globalized economy, combined with a growing number of failing states means that U.S. interests will most surely be threatened broad, and will require military action in large built-up areas. For naval forces, this action entails going into populated littoral regions capable of executing missions across the full spectrum of war. Forces will therefore need to be flexible and adaptable.

Next, warfare will in many cases be asymmetric in nature. As the affluence gap between the “haves” and “have-nots” widens, failed states and transnational terrorist organizations will use increasingly desperate methods to strike at successful countries and social systems. Technological and informational revolutions have created the ability for these “have-nots” to challenge the “haves” in an asymmetrical fashion, to include chemical, biological and nuclear weapons. Being able to “out think” the enemy will be

even more important in the future. Moreover, these terrorist threats will necessitate the requirement for a robust homeland security force.

Warfare will also be more and more coalition based, which requires forces to be functionally able to integrate with each other, task organizing capabilities in a rapid but flexible manner. As the world grows closer together economically, cultural clashes will continue to surface over everything from border disputes and resource allocation issues to ideological and religious differences. Regional Stability will require peace keeping/enforcement forces capable of resolving these types of cultural conflicts. Forces will require an increased awareness and understanding of cultural differences in order to allow them to work together in an effective manner.

Lastly, the face of war in the future will be one of incredible uncertainty and increased friction. We live in a period of unparalleled changes. Multiple sweeping changes in technology, economics, informational, and sociological systems are occurring simultaneously. As Clausewitz described uncertainty, he was envisioning a clash between two warring states or perhaps a coalition against one nation vying for regional hegemony. Taking this notion of uncertainty and applying it to today's standards of multiple coalitions, all having differing objectives fighting against an amorphous collection of individuals and states, it is clear that the level of uncertainty and friction will correspondingly rise, even in the face of increased technological innovations in the intelligence fields.

SECTION THREE: SYNTHESIS

These dominant characteristics will require military forces capable of fighting several different types of war simultaneously and will correspondingly require a force as smart as

we can produce.

Our current force was created for, and is best suited for fighting conventional forces in major regional conflicts (MRC.) The threats are evident: Iraq, Iran, North Korea in the short term, with China being a potential long term threat. Winning one or more MRCs will require forces able to fight at the highest intensity of war, leveraging all technological advances in information operations and precision strike capabilities. This requirement will remain up to and through 2020.

Additionally, the war against terrorism combines nearly all of the characteristics of future war, and will also require highly capable forces to deal with its unique challenges. This type of war is long term and fought on multiple fronts, both at home and abroad. It is asymmetric in nature and will require innovative thinking to achieve any measure of success.

Humanitarian or peace keeping/peace enforcement missions will continue to be required and will also necessitate dedicated forces with unique capabilities.

Can one single force do this all in 2020? Probably, yes. Another solution though, might be to diversify the force. As proven earlier, the millennials will provide a large pool of very capable individuals-so why not take advantage this and build the optimum force, and make it smart at the same time?

Accordingly, by 2020, the armed services may require three types of forces for three types of missions. An exceptionally capable tier 1 force will be needed to fight across the full spectrum, but with the primary focus on high intensity, MRC war and asymmetric war. This force is roughly equivalent to the current US armed forces.

Next, a Tier 2 force may be necessary to serve in a wide variety of humanitarian

and peacekeeping missions. This force would require capabilities to fight at the medium to low end of the spectrum, and would be more of a police force with civil affairs competencies. At times, this force may have to operate with tier 1 forces, and so will require systems that can easily integrate. This force will also be able to serve as a coordinating agency for various nongovernmental organizations as well as a coordinating headquarters for a coalition effort. Maturity, culture awareness and increased language proficiency will be required of this force.

Finally, a tier 3 force may eventually be required for homeland security. This would be a sort of “Federal Security Force.” Missions would include augmentation for airport/port security, customs and boarder officials, INS, and air marshals. The federal government has already taken over airport security. By 2020, we will possibly need even more federal personnel to guard nuclear power plants and other vital infrastructure areas. We may also need more border patrol and customs agents to keep terrorists and their weapons out of the country, and more INS agents and customs officials to track down and expel foreigners who don’t belong or have overstayed their visas. The Coast Guard may have to be increased to provide tighter security at and around our ports.

Conclusions

Ultimately, the force of 2020 will be what we make it between now and then. Data analysis suggests that the force we require is the one we recruit, and we will continue to be able to recruit to the standards set. Generational factors indicate the force will probably be more capable, but we currently are unable to measure this in a very specific way.

Given the increase in technology, combined with a greater variety of threats, all operating in a environment of more uncertainty, the force of 2020 will need to be smarter than what is currently projected. Fighting and winning at the highest end of war will require a more mentally capable force.

The force of 2020 may need to be larger, especially if the nation militarizes the federal security functions.

A separate force with specific peace keeping and humanitarian operations capabilities may be required to respond to crisis as they emerge.

The millennial generation is the most promising aspect of the nations future, particularly in terms of the armed service. The primary challenge will remain attracting the right number and right I-III A percentage, a challenge that will in all likelihood become more difficult as the percentage of millennials who choose to attend undergraduate education continues to rise.

Recommendations

For the Marine Corps, these conclusions lead to several recommendations. The I-III A percentage should be incrementally increased over the next 17 years, starting immediately. By taking small steps, over time, it is possible to significantly raise the mental capacity of the enlisted forces by 12%. This is not unreasonable given the timeline, or impossible given the use of better business practices in the recruiting effort.

The following figure represents a possible plan:

<u>Year</u>	<u>I-III %</u>
2004	65%
2007	67%
2010	69%

2014	71%
2017	73%
2020	75%

Concurrently, we should conduct a comprehensive assessment the ASVAB test classification system, with an emphasis on finding better ways to identify and categorize “intelligences. ” In taking this action, we may determine that the requirement exists to overhaul our entire personnel procurement system. This study should also address the issues regarding the balance of the force structure as discussed earlier. The analysis indicates that we will probably require fewer combat arms personnel, while at the same time more combat service support personnel. An improved reclassification system may also lead to a more specialized force and a reassessment of rank structure. Either way, a more exhaustive study should be conducted update the entry level accession process in light of the recent developments regarding intelligence and neural development.

If a larger, more diversified force is required, another area for further study involves the possible institution of a type of a national service program. A detailed study should be conducted into the implications of mobilizing personnel to serve in a tiered system as described above. This program would require all young people to serve a short time in one of the three options or tiers, with tier 1 forces requiring longer service (and providing higher compensation.) This is perhaps the best and only way to meet the threats of 2020 with a reasonable assurance of security for the nation and stability abroad.

Bibliography:

DMDC manpower studies, 1975-2002

USAREC market share reports, 1980-2002

MCRC RMIS accession data, 1992-2002

J. Walter Thompson market research studies and Recruiting Advertising Programs (RAPS), U.S. Marine Corps account, 1990-2002

Youth Attitude Tracking Surveys (YATS) 1990-2002

Peters, Ralph *Fighting for the Future: Will America Triumph?* (Stackpole Books, 1999.)

Peters, Ralph *Beyond Terror, Strategy in a Changing World*, (Stackpole Books, 2002.)

Gardner, Howard *Intelligence Reframed, Multiple Intelligences for the 21st Century*, (Perseus Books Group, 1999.)

Howe, Neil and Strauss, William *Millennials Rising: The Next Great Generation*, (Broadway Books, 2001.)

Howe, Neil and Strauss, William *Generations, The History of America's Future* (Morrow/Quill, 1991)

Howe, Neil and Strauss, William *Fourth Turning, An American Prophecy* (Broadway Books, 1997.)

Huntington, Samuel P. *The Clash of Civilizations and the Remaking of World Order* (Touchstone Books, 1998.)

O'Hanlon, Michael *Technological Change and the Future of Warfare* (Brookings Institution Press, 2000.)

Harmon, Christopher C. *Terrorism Today* (Frank Cass Publishers, 2000.)